

## REMARKS

### I. General

This Amendment is in response to the Office Action dated April 20, 2007. With this amendment claims 1, 9, 22, 23, 27 and 39 are amended, and the remaining claims are unchanged. Reconsideration and withdrawal of the rejections are respectfully requested in view of the following remarks.

### II. Claim Amendments

Claim 1 is amended herein to further recite "said gray level having each color drive setting for said pixel being equal; and adjusting one or more of said color drive settings of said pixel to create a pseudo gray level." Support for this amendment can be found in the specification at least at page 2, paragraph 8, page 4, paragraph 16, and page 5, paragraphs 19-20.

Claims 9, 22, 23, 27 and 39 are amended to correct typographical errors or other informalities identified by the Examiner. These amendments are not made in response to any prior art or for the purpose of narrowing the scope of the claims. Entry of these amendments is respectfully requested.

### III. Claim Objections

On page 2 of the Office Action objected to claims 9-20, 27, 30, and 32-44, because various elements of these claims appeared to lack antecedent basis. With this amendment the Applicant has amended claims 9, 27, and 39 to correct these errors. These errors are typographical in nature, and the corrective amendments are not intended to narrow the claims. Entry is respectfully requested. Reconsideration and withdrawal of the objections is respectfully requested.

### IV. Claim Rejections Under 35 U.S.C. § 112

Claims 1 and 21-23 are rejected under 35 U.S.C. § 112, second paragraph.

Claim 1 is rejected because of its recitation “said pseudo gray level *may be* perceived as falling between said gray levels.” (Emphasis added). Claim 1 is therefore amended to replace the non-exclusive term “may be.” Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 21 is rejected because of its recitation “user perceives.” Claim 21 is therefore amended so that it does not rely on the subjective perception of the user.

Claim 21 also appears to be rejected because it does not clearly define the boundaries of “what is available in gray scale” in the specification. The Examiner proposes an interpretation of the claim language that essentially construes both “what is available in gray scale” and “gray levels beyond what is available in gray scale” as “a gray scale value.” Applicant respectfully traverses this rejection.

The proposed interpretation appears to conflate two distinct aspects of grayness as set forth in the present application 1) gray scale values, and 2) levels of gray beyond (e.g., between) gray scale values. According to M.P.E.P. § 2106(V)(A), an application complies with 35 U.S.C. § 112 if it would reasonably apprise a person of ordinary skill in the art of the invention. The specification would apprise a person of ordinary skill in the art of these two distinct aspects that are used in the invention. For example, embodiments of values included in a gray scale can be found in the specification at least at page 5, paragraph 19 lines 5-9 and page 7, paragraph 23 lines 21-22. Similarly, embodiments of the values beyond gray scale can be found in the specification at least at page 5, paragraph 19 lines 10-12 and page 8, paragraph 25. Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 22 is rejected because of its recitation “to be perceived.” Claim 22 is therefore amended so that it does not rely on the subjective perception of the user. Having been so amended, Applicant asserts the claim language particularly points out and distinctly claims the subject matter. Therefore, Applicant respectfully traverses the additional interpretation proposed by the Examiner. Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 23 is rejected because its recitation “how much brightness” does not adequately quantify brightness. Applicant respectfully traverses this rejection. According to M.P.E.P. § 2173.05(b), the acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification. Applicant asserts a person of ordinary skill in the art would understand what “how much brightness” means, particularly in light of the specification at least at page 7, paragraph 25. Reconsideration and withdrawal of the rejection are respectfully requested.

V. Claim Rejections Under 35 U.S.C. § 102

Claims 1-17, 21-26, and 39-42 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Martin et al., U.S. Patent No. 6,714,206 (hereinafter “*Martin*”). *Office Action*, at pg. 4. Applicant traverses the rejection and asserts that these claims are allowable, at least, for the reasons stated below.

To anticipate a claim under 35 U.S.C. § 102, a single reference must teach each and every element of the claim. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). In fact, “[t]he identical invention must be shown in as complete detail as is contained in the...claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989).

A. Independent Claim 1

In the relevant parts, independent claim 1 as amended recites:

adjusting one or more of said color drive settings of said pixel to create a pseudo gray level

Applicant respectfully asserts that *Martin* does not teach a method for displaying pseudo gray on a pixel. In the embodiments relied upon by the Examiner, *Martin*’s method does not adjust the color drive setting of “a pixel” to create a pseudo gray level, but instead the *Martin* method groups pixels together into super-pixels in order to achieve the desired effect. *Martin* column 1 line 42-44. *Martin* refers to this technique as dithering, which the Examiner defines based on The Authoritative Dictionary of IEEE Standards Terms, Seventh Edition: a technique for displaying an image with many colors or gray levels on a device

having fewer colors or gray levels than the image by simulating the colors or gray levels with a *group* of closely spaced equal-sized dots. (Emphasis added). *Martin* explains a variety of dithering techniques where pixels are grouped either spatially, temporally, or both (i.e. frame rate control). *Martin* column 1 lines 42-53 (spatial), lines 62-65 (temporal), and column 2 lines 6-18 (frame rate control). *Martin* requires adjusting a group of pixels in relation to each other in order to create an illusion that more colors are available in a lower depth display screen. Therefore *Martin* does not teach “adjusting one or more of said color drive settings of said pixel to create a pseudo gray level.” Accordingly, Applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 102(e) rejection of record with respect to claim 1. Furthermore, dependent claims 2-8 are believed allowable as well, at least, by virtue of their dependency either directly or indirectly from allowable claim 1. Reconsideration and withdrawal of the rejection are respectfully requested.

B. Independent Claims 9 and 39

The apparent basis for rejecting both claim 9 and claim 39 appears to be similar. In the relevant parts, independent claim 9 and independent claim 39 recite:

adjusting said displayable gray scale number based on the remainder obtained from said dividing

*Martin* does not teach “adjusting said displayable gray scale number based on the remainder obtained from said dividing.” Instead of adjusting a gray scale number, *Martin* uses a remainder to select which pixels from within a group of closely placed pixels will have their intensity values adjusted. E.g., *Martin* col. 1 lines 42-49. Accordingly, Applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 102(e) rejection of record with respect to claims 9 and 39. Furthermore, dependent claims 10-17 and 40-42 are believed allowable as well, at least, by virtue of their dependency either directly or indirectly from allowable claims 9 and 39, respectively. Reconsideration and withdrawal of the rejection are respectfully requested.

C. Independent Claim 21

In the relevant parts, independent claim 21 as amended recites:

mapping said multiple shades of gray of said image to provide a depth of gray levels for a pixel beyond what is available in gray scale

The techniques that *Martin* teaches do not “provide a depth of gray levels for a underline beyond what is available in gray scale as requested by the claim.” Instead, *Martin* places groups of pixels together to form super-pixels. By adjusting the color of the pixels (based on the remainder) within the super pixel *Martin* is able produce the appearance of colors that fall outside the scale of colors the display can produce. *Martin* col. 1, lines 42-53. Accordingly, Applicant respectfully requests that the Examiner withdraw the 35 U.S.C. § 102(e) rejection of record with respect to claim 21. Furthermore, dependent claims 22-26 are believed allowable as well, at least, by virtue of their dependency either directly or indirectly from allowable claim 21. Reconsideration and withdrawal of the rejection are respectfully requested.

#### VI. Claim Rejections Under 35 U.S.C. § 103

On page 12 of the Office Action claims 18-20, 43 and 44 were rejected under 35 U.S.C. § 103(a) as being obvious over *Martin*.

On page 13 of the Office Action claims 27-38 were rejected under 35 U.S.C. § 103(a) as being obvious over *Martin* in view of Rozzi, U.S. Patent Publication 2002/0180751 A1 (hereinafter “*Rozzi*”).

To establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), three basic criteria must be met. First, there must be some suggestion either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the references’ teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See M.P.E.P. § 2143. Applicant asserts that the rejections do not satisfy the basic criteria.

##### A. Claims 18-20, 43 and 44

Claims 18-20 and 43 and 44 depend from independent claims 9 and 39 respectively. As discussed above *Martin* does not teach or suggest all of the elements of independent claim

9 and 39. The additional analysis applied by the Examiner does not remedy the deficiencies identified above. Therefore, *Martin* cannot teach or suggest all of the elements of the dependent claims. Therefore, claims 18-20 and 43 and 44 are believed allowable over *Martin*. Reconsideration and withdrawal of the rejection are respectfully requested.

B. Claims 27-38

Independent claim 27 shares similar features as independent claim 9. Claim 27 requires, "...adjusting color outputs based on said remainder obtained from said dividing...." *Martin* does not teach this element of claim 27. As discussed above, *Martin* uses a remainder to select which pixels from a within a group of closely placed pixels will have their intensity value changed. This is not an adjustment of a color output. The addition of *Rozzi* does not remedy the above deficiency identified. Therefore, the combination of *Martin* and *Rozzi* cannot teach in the entirety the limitations of independent claim 27. Furthermore, dependent claims 28-38 are believed allowable as well, at least, by virtue of their dependency either directly or indirectly from allowable claim 27. Reconsideration and withdrawal of the rejection are respectfully requested.

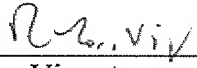
VII. Conclusion

In view of the above, applicant believes the pending application is in condition for allowance. Reconsideration and allowance of the pending claims are respectfully requested.

Applicant believes no fee is due with this response. However, if a fee is due, please charge Deposit Account No. 06-2380, under Order No. 65744/P021US/10404749 from which the undersigned is authorized to draw.

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Respectfully submitted,

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